

APPENDIX H

Rare Plant and Noxious Weeds Survey Technical Memorandum



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Rare Plant and Noxious Weeds Survey Technical Memorandum

To: Idaho Panhandle National Forests and Lolo National Forest
From: Matthew Vesh, Botanist/Wetland Scientist, SWCA Environmental Consultants
Date: July 16, 2015
Subject: Lookout Pass Ski Area Expansion EIS, Shoshone County, Idaho; Mineral County, Montana

INTRODUCTION

Lookout Pass Ski and Recreation Area has proposed to expand its ski area south and west of the current special-use permit boundary onto additional National Forest System (NFS) lands within the Idaho Panhandle National Forests (IPNFs) and Lolo National Forest (LNF). The Proposed Action would add approximately 100 acres of new ski trails and gladed terrain, and would include the installation of two new lifts (Lifts 5 and 6); an upgrade of Lift 1; construction of a new restroom, maintenance shop, and ski patrol building; and the addition of 130 new parking spaces. Also included would be 2.8 miles of new or reconstructed permanent road for administrative and maintenance use by the Forest Service and Lookout Pass Ski and Recreation Area, as well as 1.2 miles of temporary roads for timber harvest and construction access.

The project area is located approximately 12 miles east of Wallace, Idaho, along Interstate 90 on the Idaho-Montana border. The survey area includes the expected disturbance area for the expansion plus a 150-foot buffer.

RARE PLANTS AND NOXIOUS WEEDS SURVEY

Methodology

Two levels of investigation were conducted for the analysis of rare plants and noxious weeds in the survey area: a background review and field surveys.

Background Review

Information on the current status and condition of rare plants in the project area was derived from review of existing vegetation information and the personal knowledge and professional judgment of the Forest Service's regional botanist (Goodnow 2015).

Rare Plants Survey

Field surveys for rare plants were conducted from June 23 to June 27, 2015, by SWCA Environmental Consultants (SWCA) Botanists Matthew Vesh and Amanda Christensen. Controlled intuitive surveys were conducted during an appropriate time of year when rare plants are readily identifiable (late June),

and in accordance with Forest Service guidance to target unique habitats and all suitable habitats having potential to contain rare plants. SWCA botanists identified and surveyed suitable rare plant habitat within the existing road prism and within a 150-foot buffer. To account for ecological boundaries between rare plant metapopulations in different watersheds, surveys were further divided into separate rare plant surveys conducted in the Coeur d'Alene River and St. Regis River watersheds. Rare plant locations were mapped, photographed, and documented on data forms (Attachments A–C). Taxonomic determinations of all plant species were based on the work of Hitchcock and Cronquist (1973), Wilson et al. (2008), Farrar (2006), and Douglas et al. (1998a, 1998b, 1999a, 1999b, 2000, 2001a, 2001b, 2002).

Noxious Weeds Survey

Surveys for noxious weeds were conducted concurrently with rare plant surveys within disturbance areas and in a 150-foot buffer immediately surrounding the disturbance areas. The road prisms and existing ski trails where soil and vegetation have been previously disturbed provide habitat for invasive species.

Field Survey Results

One rare plant species and three noxious weed species were identified within the survey area. These results are summarized below, with Forest Service plant survey field forms provided in Attachment A.

Rare Plants

Whitebark Pine (*Pinus albicaulis*)

Whitebark pine was identified within the survey area. Suitable habitat was identified only within the St. Regis River watershed. Suitable on-site habitat consists of lodgepole pine (*Pinus contorta*)–dominant forest above 6,000 feet elevation on slopes with a southern aspect. Plant species co-occurring with this population include grouse whortleberry (*Vaccinium scoparium*), beargrass (*Xerophyllum tenax*), smooth woodrush (*Luzula hitchcockii*), and lodgepole pine. Eight individual plants were identified during the field survey, and all plants were less than 7 feet high (see photographs in Attachment B). An elemental occurrence form for this species is provided in Attachment C.

Noxious Weeds

Three noxious weed species were identified by SWCA during field surveys within the survey area.

Spotted Knapweed (*Centaurea stoebe*)

Spotted knapweed, a biennial forb in the Asteraceae family, is considered a widespread noxious weed in the IPNFs and LNF. Scattered individuals were identified on the east slope ski trail and in the grasslands near the proposed maintenance shop in the Coeur d'Alene River and St. Regis River watersheds.

Bull Thistle (*Cirsium vulgare*)

Bull thistle, a biennial forb in the Asteraceae family, is considered a widespread noxious weed in the IPNFs and LNF. A single plant was identified along Forest Service Road 18591 in the St. Regis River watershed.

Common St. John's-wort (*Hypericum perforatum*)

St. John's-wort, a perennial forb in the Asteraceae family, is considered a widespread noxious weed in the IPNFs and LNF. The plant was common and abundant along all roads and trails throughout the survey area in both the St. Regis River and Coeur d'Alene River watersheds.

LITERATURE CITED

- Douglas, G.W., G.B. Straley, D.V. Meidinger, and J. Pojar (eds). 1998a. *Illustrated Flora of British Columbia, Vol. 1: Gymnosperms and Dicotyledons (Aceraceae through Asteraceae)*. Victoria, British Columbia: British Columbia Ministry of Environment, Lands and Parks and Ministry of Forests.
- . 1998b. *Illustrated Flora of British Columbia, Vol. 2: Dicotyledons (Balsaminaceae through Cuscutaceae)*. Victoria, British Columbia: British Columbia Ministry of Environment, Lands and Parks and Ministry of Forests.
- . 1999a. *Illustrated Flora of British Columbia, Vol. 3: Dicotyledons (Diapensiaceae through Onagraceae)*. Victoria, British Columbia: British Columbia Ministry of Environment, Lands and Parks and Ministry of Forests.
- . 1999b. *Illustrated Flora of British Columbia, Vol. 4: Dicotyledons (Orobanchaceae through Rubiaceae)*. Victoria, British Columbia: British Columbia Ministry of Environment, Lands and Parks and Ministry of Forests.
- . 2000. *Illustrated Flora of British Columbia, Vol. 5: Dicotyledons (Salicaceae through Zygophyllaceae) and Pteridophytes*. Victoria, British Columbia: British Columbia Ministry of Environment, Lands and Parks and Ministry of Forests.
- . 2001a. *Illustrated Flora of British Columbia, Vol. 6: Monocotyledons (Acoraceae through Najadaceae)*. Victoria, British Columbia: British Columbia Ministry of Environment, Lands and Parks and Ministry of Forests.
- . 2001b. *Illustrated Flora of British Columbia, Vol. 7: Monocotyledons (Orchidaceae through Zosteraceae)*. Victoria, British Columbia: British Columbia Ministry of Environment, Lands and Parks and Ministry of Forests.
- . 2002. *Illustrated Flora of British Columbia, Vol. 8: General Summary, Maps and Keys*. Victoria, British Columbia: British Columbia Ministry of Environment, Lands and Parks and Ministry of Forests.
- Farrar, D.R. 2006. *Systematics of Moonworts: Botrychium Subgenus Botrychium*. Ames, IA: Department of Ecology, Evolution and Organismal Biology, Iowa State University.
- Goodnow, V. 2015. Coeur d'Alene River Ranger District Botanist. Coeur d'Alene, ID: Idaho Panhandle National Forests. Email communication with A. Christensen, SWCA. April 6, 2015.
- Hitchcock, C.L., and A. Cronquist. 1973. *Flora of the Pacific Northwest*. Seattle and London: University of Washington Press.
- Wilson, B.L., R.E. Brainerd, B. Newhouse, and N. Otting. 2008. *Field Guide to the Carex Sedges of the Oregon and Washington*. Corvallis: Oregon State University Press.

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ATTACHMENT A

USDA Forest Service Plant Survey Field Form

USDA FOREST SERVICE
PLANT SURVEY FIELD FORM
 (® = Required Fields)

General Information

1) SURVEY ID: ® 01 12 05 S#1		2) SURVEY NAME: Lookout Pass Expansion		
3) SURVEY STATUS: ® Completed Survey		4) TARGET: ® <u>TESP</u> ; INPA; BOTH		5) SOURCE OF WORK:
6) Survey Type: ® Focused (Intuitive Controlled)				
7) Survey Focus: ® Terrestrial, Riparian, and Aquatic				
8) Estimate of Survey Area Size (acres):			9) No. of Traverses:	
10) Elevation: Min: Max: Average:		11) Elevation UOM:		
12) State: ®	13) County: ®	14) Region: ®	15) Forest: ®	16) District: ®
Montana	Mineral	Northern	Lolo	Superior
Idaho	Shoshone	Northern	Idaho Panhandle	Coeur d'Alene
17) Parameters of Survey <i>(Describe any ecological parameters, survey criteria or combinations of these used to focus the survey. (I.e., north slopes, specific habitat types, certain soils within certain forest conditions, survey timing, etc.):</i>				
18) Survey Comments <i>(Directions, area description, specific comments by visit date, etc.):</i>				

Survey Visits

Required. Enter a Date (MM/DD/YYYY) and Examiners for each visit made.

19) VISIT DATE ®	20) LAST NAME ® AND FIRST NAME ® OF EXAMINERS FOR EACH VISIT
6/23/2015	Vesh, Matthew and Christensen, Amanda
6/24/2015	Vesh, Matthew and Christensen, Amanda
6/25/2015	Vesh, Matthew and Christensen, Amanda
6/26/2015	Vesh, Matthew and Christensen, Amanda
6/27/2015	Vesh, Matthew and Christensen, Amanda

Target Species

Required. List all targeted plant species (TES, INPA, special forest products, or other species of concern) that are the focus of the survey. It may be helpful to separate TES from INPA species by page or block if survey is for both purposes. Enter all the species individually using the NRCS *PLANTS* code and/or scientific name. All columns are required.

21) ® NRCS Plant Code	22) ® Scientific name	23) ® Suitable habitat found	24) ® Plant found	25) ® FS Site ID(s) for EOs (If EO forms completed)
ASTR	Asplenium trichomanes	yes	no	
BLSP	Blechnum spicant	yes	no	
BOAS	Botrychium ascendens	yes	no	
BOCR	B. crenulatum	yes	no	
BOLA	B. lanceolatum	yes	no	
BOLI	B. lineare	yes	no	
BOMI	B. minganense	yes	no	
BOMO	B. montanum	yes	no	
BOPA	B. paradoxum	yes	no	
BOPE	B. pedunculosum	yes	no	
BOPI	B. pinnatum	yes	no	
BOSI	B. simplex	yes	no	
BUAP	Buxbaumia aphylla	yes	no	
BUAP	Buxbaumia aphylla	yes	no	
CABU	Carex buxbaumii	yes	no	
CYFA	Cypripedium fasciculatum	yes	no	
CYPA	C. parviflorum var. pubescens	no	no	
GAHI	Gaultheria hispidula	yes	no	
GRBR	Grimmia brittoniae	yes	no	
HOLU	Hookeria lucens	yes	no	
LYDE	Lycopodium dendroideum	yes	no	
MIAL	Mimulus alsinoides	yes	no	
PHCO	Phegopteris connectilis	yes	no	
PIAL	Pinus albicaulis	yes	yes	01 12 05 EO#1
POBR	Polystichum braunii	yes	no	
RHNU	Rhizomnium nudum	yes	no	
STST	Streptopus streptopoides	yes	no	
THNE	Thelypteris nevadensis	yes	no	
TROC	Triantha occidentalis spp. brevistyla	no	no	
WAID	Waldstenia idahoensis	yes	no	
HOAQ	Howellia aquatilis	no	no	
SISP	Silene spaldingii	no	no	

Species List of Surveyed Area

Optional. List other species found during the survey. Record the NRCS *PLANTS* Code, scientific name or both. Indicate habitat (locally defined), lifeform and cover abundance (all optional). Indicate non-native plants with "X"

26) Completeness of species list:

27) Cover Method (if cover recorded):

28) Comments (e.g. details about species list approach, habitat focus, vegetation types or structure, etc.):

[illegible]

Optional Location Information

Location information to represent the survey area may be recorded,
in addition to entering the spatial feature in the application

35) USGS Quad Number:	36) USGS Quad Name:
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37) Forest Quad Number:	38) Forest Quad Name:
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39) Legal Description: Required where public land survey is available.

Meridian:	Township and Range:			
Section: _____	Q Sec: _____	QQ Sec: _____	QQQ Sec: _____	QQQQ Sec: _____

40) Latitude and Longitude (either in degrees, minutes, seconds or in decimal degrees)

Geodetic Datum:

Latitude: Degrees ____ N Minutes Seconds _____. ____

Longitude: Degrees ____ W Minutes Seconds _____. ____

GPS Datum:

GPS Lat. Dec. Degrees: GPS Long. Dec. Degrees:

41) UTM

UTM Datum:	UTM Zone:
Easting: _____	Northing: _____

42) GPS Equipment: Manufacturer:	Model:
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43) Metes and Bounds

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44) Directions to Survey Area

45) Sketch of Survey Area

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ATTACHMENT B

Whitebark Pine Site Photographs



Figure B1. Whitebark pine habitat.



Figure B2. Whitebark pine.

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ATTACHMENT C

USDA Forest Service TES Plant Element Occurrence Field Form

TES PLANT ELEMENT OCCURRENCE - FIELD FORM - USDA FOREST SERVICE

® = required field, ®* = conditionally required field

General Information

1) FS SITE ID: ® 01 12 05 EO#1		2) DATE: ® 6/25/15	3) SITE NAME: Lookout Pass Exp
4) NRCS PLANT CODE: ® PIAL			
5) SCIENTIFIC NAME: ® Pinus albicaulis			
6) RECORD SOURCE: ® FS		7) SURVEY ID: ®*	8) Survey Name:
9) EXAMINER(S)- LAST: ® Vesh		FIRST: ® Matthew	MIDDLE INITIAL: A
LAST: Christensen		FIRST: Amanda	MIDDLE INITIAL:
10) OWNERSHIP: ® Lolo NF		11) Loc. Uncert: ® Aerial estimated	12) Uncert. Dist: ®* >6.25-25 m
13) E.O. # 1		14) STATE: ®* Montana	15) COUNTY: ®* Mineral
16) REGION: ®* Northern		17) FOREST: ®* Lolo	18) DISTRICT: ®* Superior
19) Area (Est):		20) Area UOM: ®*	
21) Canopy Cover Method ®* (circle one): COVER PERCENT; DAUBEN; NRMCOV			

Element Occurrence Data

22) EO Canopy Cover: %Cov: or Cover Class Code:		23) Lifeform: Tree
24) Number of subpopulations:		XX) Plant Found (Revisit): Yes or No
25) Plant Count: >8	26) Count Type: Genets/Ramets/Undetermined	27) Count: Actual or Estimate
28) Revisit needed - Yes or No	29) Revisit Date:	
30) Revisit Justification:		
31) Phenology by % (Sum to 100%): Vegetative Flower/Bud Fruit/Dispersed Seedlings/ Juvenile	32) Population Comments: (e.g., distribution, vigor, density, phenology, dispersal)	
	33) Evidence of disease, competition, predation, collection, trampling, or herbivory: Yes ___ or No ___	
	34) Evidence Comments:	
35) Pollinator observed – Yes or No 36) Pollinator type(s):		
37) Pollinator comments:		

Site Morphometry

38) Percent Slope:		39) Slope position:
40) Aspect: azimuth: or cardinal:		
41) Elev.: Ave: Min: Max:	42) Elev UOM: ®*	

Soil Characteristics and Light Conditions

43) Substrate on which EO occurs:		
44) Parent Material:	45) Soil Moisture:	46) Soil Texture:
47) Soil Type:	48) Light Exposure:	

Site Classifications

Record taxonomic units of the given type(s) if published classifications exist for the area.

CLASSIFICATION TYPE	CLASS CODE	CLASSIFICATION SHORT NAME	CLASSIFICATION SET
49) Existing Veg			
50) Potential Veg			
51) Ecotype			

Habitat Quality and Management Comments

52) Habitat Description: Mapped as PICO in FS6040 DOM. South aspect with 60% PICO cover of which 50% of PICO is standing dead/snag. Understory dominants include XETE and VASC; LUHI common.

53) Dominant Process:

54) Community Quality (L, M, H):

55) Landscape Integrity (L, M, H):

56) Process Comment:

57) Disturbance/Threats (present or imminent):

58) Disturbance/Threats Comment:

59) Non-Native Comment:

60) Current Land Use Comment:

Canopy Cover

Record % canopy cover by actual percent, **or** by cover class (as indicated in General Information Block).

Lifeform Canopy Cover	61) % Cov or Code	Ground Cover	62) % Cov or Code
Tree		Bare	
Shrub		Gravel	
Forb		Rock	
Graminoid		Bedrock	
Non-vascular		Moss	
Lichen		Litter/Duff	
Algae		Basal Veg	
		Water	
		Road surface	
		Lichen	

Associated Species

List species directly associated with the EO species on this site. Record the NRCS Plant Code, scientific name or both. If desired, indicate lifeform, dominant species, % cover for each species and flag non-native species.

63) Completeness of Species List: ®* C, R, OR S

64) Species List Comment: partial search

[illegible]

EO Specimen Documentation

71) Reference for ID:

72) Primary Collector – Last Name: Vesh	First Name: Matthew	M.I. A
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Other Collectors – Last Name: Christensen	First Name: Amanda	M.I.
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73) Collection #: ®*	74) ID Confirmed: ®* Y: <input checked="" type="radio"/> or N: <input type="radio"/> or Questionable: <input type="radio"/>
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75) Verification: Bruce Erickson, silviculturalist, Forest Service - Lolo NF - Superior

76) Specimen Repository: ®*

Image Information

77) Image ID	78) Image Description

Location Information

(State, County, Region, Forest, District will be auto-populated by the database application when the spatial feature is entered)

79) USGS Quad Number:	80) USGS Quad Name:
81) Forest Quad Number:	82) Forest Quad Name:

83) Legal Description: Required where public land survey is available.

Meridian: _____ Township and Range: _____
 Section: _____ Q Sec: _____ QQ Sec: _____ QQQ Sec: _____ QQQQ Sec: _____

84) Latitude and Longitude (either in degrees, minutes, seconds or in decimal degrees)

Geodetic Datum:

Latitude: Degrees ____ N Minutes ____ Seconds ____.

Longitude: Degrees ____ W Minutes ____ Seconds ____.

GPS Datum:

GPS Lat. Dec. Degrees: 47.44201 N

GPS Long. Dec. Degrees: 115.74090 W

85) UTM

UTM Datum: _____ UTM Zone: _____
 Easting: _____ Northing: _____

86) GPS Equipment Used (Manufacturer and Model):

87) Metes and Bounds

88) Directions to Site

89) Sketch of Site or Area



90) General EO Comments

